Clarke®

air

# ½" IMPACT WRENCH SET

## MODEL NO: CAT117

PART NO: 3110873

## OPERATION & MAINTENANCE INSTRUCTIONS

CE

LS0613

## INTRODUCTION

Thank you for purchasing this CLARKE product.

Before attempting to use this product, please read this manual thoroughly and follow the instructions carefully. In doing so you will ensure the safety of yourself and that of others around you, and you can look forward to your purchase giving you long and satisfactory service.

## GUARANTEE

This product is guaranteed against faulty manufacture for a period of 12 months from the date of purchase. Please keep your receipt which will be required as proof of purchase.

This guarantee is invalid if the product is found to have been abused or tampered with in any way, or not used for the purpose for which it was intended.

Faulty goods should be returned to their place of purchase, no product can be returned to us without prior permission.

This guarantee does not effect your statutory rights.

## ENVIRONMENTAL PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment.

## SET CONTENTS

1 x Impact Wrench

10 x Impact Sockets: 9, 10, 11,13, 14, 17, 19, 22, 24 & 27 mm.

1 x 125mm (5") Extension Bar

1 x In-Line Oiler and 1 x Oil Bottle

1 x 4.0 mm Hexagon Key

1 x Air Inlet Adapter (PCL type)

# GENERAL SAFETY RULES

CAUTION: FAILURE TO FOLLOW THESE PRECAUTIONS COULD RESULT IN PERSONAL INJURY, AND/OR DAMAGE TO PROPERTY.

## WORK ENVIRONMENT

1. Keep the work area clean and tidy.
2. Dress appropriately - Do not wear loose clothing or jewellery. Tie long hair out of the way.
3. Keep children and visitors away - Do not let children handle the impact wrench.
4. Do not operate the impact wrench where there are flammable liquids or gases.
5. Keep the air supply hose away from heat, oil and sharp edges.
6. Do not fit the impact wrench to any stand or clamping device that may damage the tool.

## USE

1. Stay alert and use common sense - Do not operate the impact wrench when you are tired or under the influence of alcohol, drugs or medication.
2. Always wear eye protectors when using the impact wrench - Eye protectors must provide protection from flying particles from the front and the side.
3. Always wear ear protectors when using the impact wrench .
4. Do not overreach - Keep proper footing and balance at all times.
5. Never use any type of bottled gas as a source of power for the impact wrench.
6. Do not connect the air supply hose with your finger on the trigger of the impact wrench.
7. Do not exceed the maximum pressure for the impact wrench: 90 psi / 6.2 bar.
8. Check hoses for leaks or worn condition before use, and ensure that all connections are secure.
9. Do not use the impact wrench for any other purpose than that described in this book.

10. Do not carry out any alterations or modifications to the impact wrench.
11. Always disconnect from the air supply when:
    - Performing any maintenance
    - The impact wrench is not in use.
    - The impact wrench will be left unattended.
    - Moving to another work area.
    - Passing the impact wrench to another person.
12. Never use the impact wrench if it is defective or operating abnormally.
13. The impact wrench should be serviced at regular intervals by qualified service personnel.
14. Avoid damaging the impact wrench for example by applying excessive force of any kind.
15. ALWAYS maintain the tool with care. Keep it clean for the best and safest performance.
16. Quick change couplings should not be located at the tool. They add weight and could fail due to vibration.
17. DO NOT force or misuse the tool. It will do a better and safer job at the rate for which it was designed.
18. Do not remove any labels. Damaged labels should be replaced.
19. This tool vibrates with use. Vibration may be harmful to your hands or arms. Stop using the tool if discomfort, a tingling feeling or pain occurs. Seek medical advice before resuming use.
20. NEVER use standard sockets. These may shatter with serious consequences. Use ONLY impact sockets.

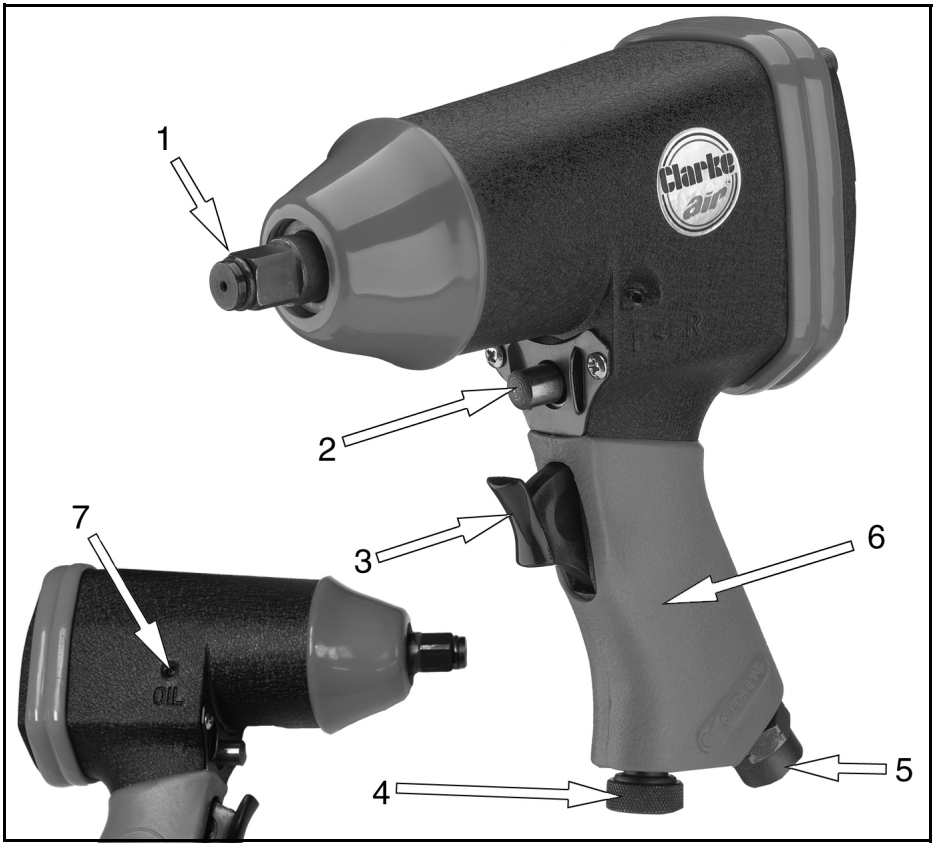
## TRANSPORTATION

1. Never carry the impact wrench by the air supply hose.
2. Never carry the impact wrench with your finger on the trigger.

## STORAGE

1. When not in use the impact wrench must be disconnected from the air supply and stored in a dry place out of the reach of children (preferably in a locked cabinet).
2. Avoid storing the impact wrench in environments where the temperature is below $0^{O}$C.

# OVERVIEW




| NO | DESCRIPTION | NO | DESCRIPTION |
|---|---|---|---|
| 1 | Anvil | 5 | 1/4" BSP (Female Air Inlet) |
| 2 | Forward/Reverse button | 6 | Handle |
| 3 | Trigger | 7 | Oil Port |
| 4 | Speed Control | | |

# BEFORE USE

## AIR SUPPLY

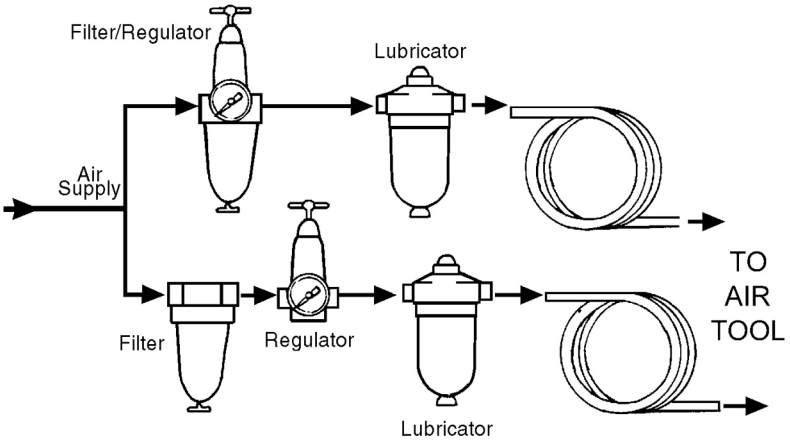
**WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF COMPRESSORS AND COMPRESSED AIR SUPPLY.**

- Use only clean, dry, regulated compressed air as a power source for the impact wrench.
- Air compressors used with the impact wrench must comply with the appropriate European Community safety directives.
- A build up of moisture or oil in the air compressor will accelerate wear and corrosion in the impact wrench.
- Never exceed the maximum operating pressure for the impact wrench.

### AIR HOSE

- The air hose must be rated at least 150% of the maximum operating pressure of the tool.

# RECOMMENDED AIR SUPPLY CONNECTION

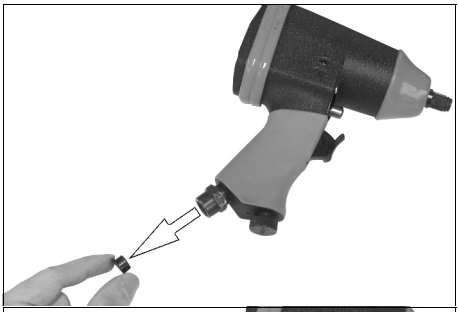


# BEFORE USE

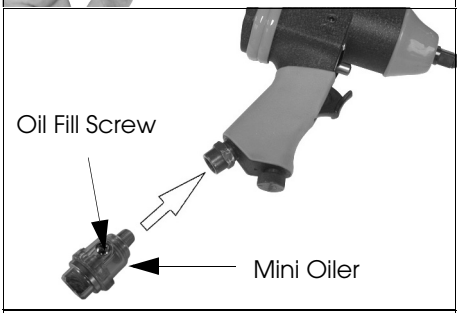
**WARNING: COMPRESSED AIR CAN BE DANGEROUS. ENSURE THAT YOU ARE FAMILIAR WITH ALL PRECAUTIONS RELATING TO THE USE OF AIR COMPRESSORS AND COMPRESSED AIR SUPPLY.**

**NOTE:** Ensure the compressor is turned off.

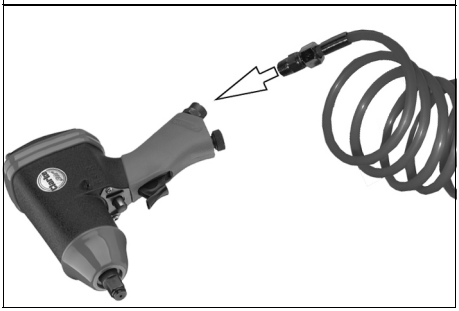
1. Remove the travel plug from the 1/4" BSP (Female Air Inlet) as shown.



2. Fit the inline mini oiler.
   - A mini oiler helps to prolong the life of the impact wrench. Remove the oil fill screw from the side of the mini oiler and fill with Air Line Oil available from your CLARKE dealer. Replace the screw before using the impact wrench.




3. Connect a suitable hose as shown.
   - Use the adapter supplied if required.
4. Connect the other end of the hose to the compressor.
5. Your impact wrench is now ready for use.



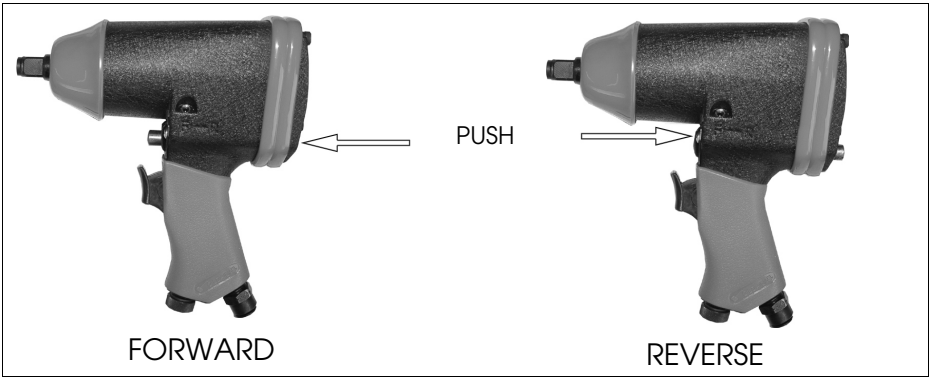
You can fit a whip hose with a quick fit coupling if required (available from your Clarke dealer.)

## USING THE FORWARD/REVERSE BUTTON

**WARNING: WAIT UNTIL THE ANVIL HAS STOPPED ROTATING BEFORE OPERATING THE FORWARD/REVERSE BUTTON.**

The Forward/Reverse button should be used as follows.

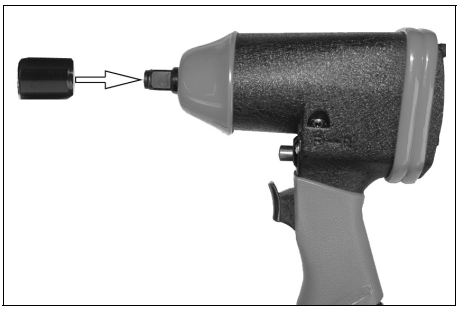
1. For normal tightening, the impact wrench should be operated in the forward (F) direction.
2. For loosening, the impact wrench should be operated in the reverse (R) direction.




## FITTING THE IMPACT SOCKET

**WARNING: NEVER USE STANDARD SOCKETS. THESE MAY SHATTER WITH SERIOUS CONSEQUENCES. ONLY USE IMPACT SOCKETS DESIGNED FOR USE WITH IMPACT TOOLS.**

1. Select the impact socket you require.
2. Push the impact socket onto the anvil as shown.

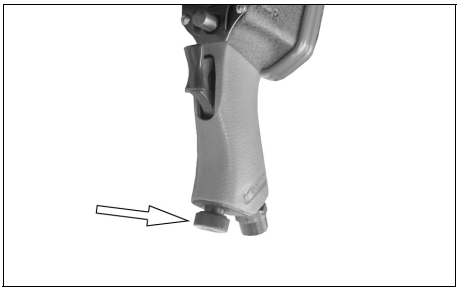


# OPERATION

## ADJUSTING THE POWER

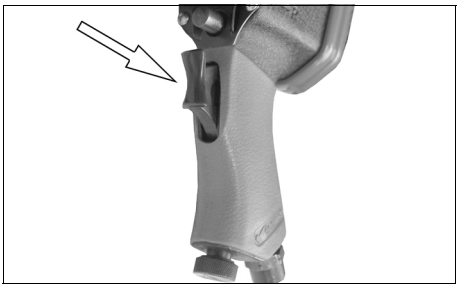
To adjust the power, set the air regulator to one of the 4 settings available.

1 (Low) - 4 (High).



## OPERATING THE IMPACT WRENCH

1. Locate the socket over the nut to be tightened or loosened.
2. Squeeze the trigger to start the wrench.
3. Release the trigger switch to stop the wrench.
    - The anvil will continue to rotate briefly after the trigger has been released.



## DISCONNECTING THE AIR SUPPLY

Do not disconnect the air supply hose until the compressor has been shut down and the compressed air released.

1. Refer to the compressor instruction manual for the procedure to shut down and release the compressed air.
2. Once the pressure has been released, disconnect the air supply hose from the impact wrench.
3. Store the impact wrench safely in its box in a dry, secure environment.



**Parts & Service: 020 8988 7400 / E-mail: Parts@clarkeinternational.com or Service@clarkeinternational.com**

# MAINTENANCE

**WARNING: MAKE SURE THAT THE IMPACT WRENCH IS DISCONNECTED FROM THE AIR SUPPLY BEFORE STARTING ANY CLEANING, OR MAINTENANCE PROCEDURES.**

## DAILY

- Drain water from the air tank, air line and compressor.
- Pour a few drops of CLARKE air line oil, into the air inlet. This should be carried out regardless of whether or not the inline mini oiler is used. If the inline mini oiler is not used, this procedure should be repeated after every two to three hours of use.

## WEEKLY

- Check the air inlet screen filter and clean if necessary.
- Remove the grub screw and insert a few drops of oil into the oil port on the side of the impact wrench.

## CLEANING

- Keep the body of the impact wrench clean and free from debris. Grit or gum deposits in the tool may reduce efficiency.

## SERVICE AND REPAIR

- All servicing and repair must be carried out by qualified service technicians.

## NOTES

- Please note that factors other than the tool may effect its operation and efficiency such as reduced compressor output, excessive drain on the airline, moisture or restrictions in the line, or the use of connectors of improper size or poor condition which will reduce air supply.
- **Clarke Air Line Oil (part no. 3050825) is available from your CLARKE dealer .

## STORAGE

- If the tool is to be stored, or is idle for longer than 24 hours, run a few drops of Clarke air line oil into the air inlet, and run the tool for 5 seconds in order to lubricate the internal parts.
- When not in use, disconnect from air supply, clean tool and store in a safe, dry place.

# SPECIFICATIONS

| | |
|---|---|
| Model Number | CAT117 |
| Part Number | 3110873 |
| Anvil Size | 1/2" |
| Maximum Torque | 230 ft/lb. |
| Operating Pressure | 90 psi (6.2 bar) |
| Air Consumption | 8 cfm |
| No Load Speed | 7000 rpm @ 90psi |
| Air Inlet Size | 1/4" BSP |
| Sound Pressure Level ($L_{pA}$ dB) | 84.4 dB(A) |
| Sound Power Level ($L_{WA}$ dB) | 95.4 dB(A) |
| Vibration Levels | 2.6 $m/s^2$ at the Main Handle<br>K = 0.72 $m/s^2$ |
| Weight | 2.2 kg |

**Please note that the details and specifications contained herein, are correct at the time of going to print. However CLARKE International reserve the right to change specifications at any time without prior notice. Always consult the machine's data plate.**

# VIBRATION EMISSIONS

Employers are advised to refer to the HSE publication "Guide for Employers".

All hand held power tools vibrate to some extent, and this vibration is transmitted to the operator via the handle, or hand used to steady the tool. Vibration from about 2 to 1500 hertz is potentially damaging and is most hazardous in the range from about 5 to 20 hertz.

Operators who are regularly exposed to vibration may suffer from Hand Arm Vibration Syndrome (HAVS), which includes 'dead hand', 'dead finger', and 'white finger'. These are painful conditions and are widespread in industries where vibrating tools are used.

The health risk depends upon the vibration level and the length of time of exposure to it……in effect, a daily vibration dose.

Tools are tested using specialised equipment, to approximate the vibration level generated under normal, acceptable operating conditions for the tool in question. For example, a grinder used at 45° on mild steel plate, or a sander on soft wood in a horizontal plane etc.

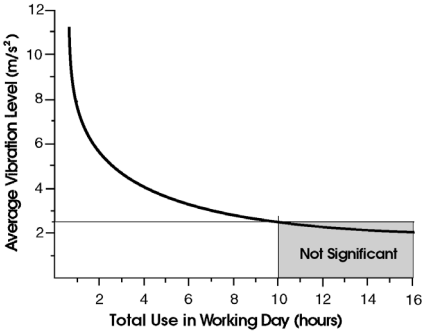
These tests produce a value 'a', expressed in metres per second per second, which represents the average vibration level of all tests taken, in three axes where necessary, and a second figure 'K', which represents the uncertainty factor, i.e. a value in excess of 'a', to which the tool could vibrate under normal conditions. These values appear in the specification panel below.

| | |
|---|---|
| Model Number | **CAT117** |
| Description | **impact wrench** |
| Declared vibration emission value in accordance with EN12096 | |
| Measured vibration emission value - *a:* | 2.6 $m/s^2$ at the Main Handle<br>K = 0.72 $m/s^2$ |
| Value determined according to | EN28622-1 |

You will note that a third value is given in the specification - the highest measured reading in a single plane. This is the maximum level of vibration measured during testing in one of the axes, and this should also be taken into account when making a risk assessment.

'a' values in excess of 2.5 $m/s^2$ are considered hazardous when used for prolonged periods. A tool with a vibration value of 2.8 $m/s^2$ may be used for up to 8 hours (cumulative) per day, whereas a tool with a value of 11.2 $m/s^2$ may be used for ½ hour per day only.

The graph on the right shows the vibration value against the maximum time the respective tool may be used, per day.




The uncertainty factor should also be taken into account when assessing a risk. The two figures 'a' and 'K' may be added together and the resultant value used to assess the risk.

It should be noted that if a tool is used under abnormal, or unusual conditions, then the vibration level could possibly increase significantly. Users must always take this into account and make their own risk assessment, using the graph above as a reference.

Some tools with a high vibration value, such as impact wrenches, are generally used for a few seconds at a time, therefore the cumulative time may only be in the order of a few minutes per day. Nevertheless, the cumulative effect, particularly when added to that of other hand held power tools that may be used, must always be taken into account when the total daily dose rate is determined.

# DECLARATION OF CONFORMITY

CE

Clarke® INTERNATIONAL

Hemnall Street, Epping, Essex CM16 4LG

## DECLARATION OF CONFORMITY

**This is an important document and should be retained.**

**We hereby declare that this product(s) complies with the following directive(s):**

*2006/42/EC Machinery Directive.*

**The following standards have been applied to the product(s):**

*EN 792-6:2000*

The technical documentation required to demonstrate that the product(s) meet(s) the requirement(s) of the aforementioned directive(s) has been compiled and is available for inspection by the relevant enforcement authorities.

The CE mark was first applied in: 2007

| | |
|---|---|
| **Product Description:** | ½ Impact Wrench Kit |
| **Model number(s):** | CAT117 |
| **Serial / batch Number:** | N/A |
| **Date of Issue:** | 08/03/2010 |

**Signed:**

.....

**J.A. Clarke**

**Director**

CAT117 1-2 Air Impact Wrench (rv1) (2)

Page 1 of 1

# NOTES

# A SELECTION FROM THE VAST RANGE OF

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